Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph 1 with the following:

[0001] This application claims priority to United States provisional patent serial nos. 60/440,434 filed January 16, 2003, 60/440,435 filed January 16, 2003, and 60/440,443 filed January 16, 2003, the disclosures of which are each expressly incorporated herein by reference. This application also expressly incorporates by reference concurrently filed United States patent application serial no. 10/668,642 [[_____]], entitled "Vacuum Ultraviolet Reflectometer System and Method" by Dale A. Harrison, and concurrently filed United States patent application serial no. 10/668,644 [[_____]], entitled "Vacuum Ultraviolet Referencing Reflectometer" by Dale A. Harrison.

Please replace paragraph 77 with the following:

[0077] Another aspect of the array detector 540 is that it may be cooled to low temperatures (below ~~0° C~~ 0 °C) to reduce dark counts (i.e. thermally generated carriers) which mask a measured signal and can adversely affect system accuracy in cases where low photon levels prevail. In order to cool the detector, it may be necessary to encapsulate it in a hermetically sealed chamber to prevent condensable species from accumulating on the device. This is usually accomplished by mounting the device in a vacuum chamber sealed with an MgF_2 window to permit VUV photons to pass. For operation at shorter wavelengths (generally below about 115 nm, the transmission cutoff for MgF2) the protective window could be removed as the controlled environment would be that of vacuum, rather than a non-absorbing purge gas. A particularly well-suited detector (Model # DV-420-BN) is manufactured by Andor Technology of Northern Ireland. This particular detector is an array detector that has a width of 26.6 mm and a height of 6.7 mm. Such a detector is formed of an array of pixels arranged as rows and columns. In this

example a typical pixel may be 26 microns in width and height, though detectors with smaller resolutions on the order of 10 microns are also typically available.

Please replace paragraph 119 with the following:

[0119] The tools and techniques disclosed herein also are advantageous compared to ellipsometer techniques because of the smaller angle of incidence that is required of the optical beam with reference to the sample. Thus for example as shown with reference to Figure 11a, an angle of incidence ϕ of 10° [[10^0]] or less and even 4° [[4^0]] or less is possible utilizing the techniques disclosed herein as opposed to ellipsometer techniques which often utilize angles of incident on the order of 70° [[70^0]]. This is advantageous as the footprint of the metrology tool is smaller and the integration of the metrology tool with process tools is simpler. For example, it is possible to integrate the metrology tools disclosed herein with a process tool through the use of one coupling mechanism as opposed to requiring multiple coupling mechanisms.